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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,289

08/31/2006

Harald Hager

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9193

66991

7590

04/02/2009

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EXAMINER

TAYLOR II, JAMES W

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,289	<b>Applicant(s)</b> HAGER ET AL.	
	<b>Examiner</b> James W. Taylor II	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 41-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 41-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/21/2009</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. All objections and rejections expect for those explicitly maintained below are hereby withdrawn in light of applicant's amendment filed 12/12/2009.
2. The text of those sections of Title 35, U.S. Code not found below can be found in a prior office action.
3. New grounds of rejection are necessitated by applicant's amendment. Specifically, by the applicant's amendment, all previous claims have been canceled and only new and previously untreated claims are pending. Thus, this action is properly made final.

### ***Double Patenting***

#### ***Obvious Double Patenting Provisional Rejection I***

4. Claims 41-60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 38-57 of copending Application No. 10/544041.
5. The copending application claims (clm. 38) a polymer matrix ("plastic material"), admixed with a nanoscale light-sensitive metal oxide. In claim 43, the copending application claims all the limitations of claim 38, but additionally wherein the metal oxide is 0.0001 to 0.1 weight percent of the composition and has a particle size of 1 to 500 nm.

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6. It is noted that the present claims are claimed with open language (i.e., "comprising"). As such, they are open to the addition of further limitations and additives. Further, the courts have stated that those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. See *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970) and MPEP 804 (II) (B) (1). The specification teaches embodiments wherein the copending laser sensitive particles is particularly from 5 to 100 nm and are present at a loading of preferably 0.001 to 0.01 weight percent (p. 6, 2nd and 3rd par.).

7. In light of the above, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the copending claims using the copending specification, thereby arriving and the present claims.

8. This is a provisional obviousness-type double patenting rejection.

9. Claims 41-60 are directed to an invention not patentably distinct from claims 38-57 of commonly assigned 10/544041, similar as noted above.

10. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 10/544041, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was

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made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

11. A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

*Obvious Double Patenting Provisional Rejection II*

12. Claims 41-60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22-25 of copending Application No. 11/368602.

13. The instant application claims a polymer matrix, admixed with a nanoscale light-sensitive metal oxide.

14. The claims of the copending application claims a plastic molded body in terms of its composition, which is the same composition claimed in the instant application, except in the copending application, there is one added physical limitation ("plastic material and the metal oxides are transparent to laser light with a wavelength of 300-1300 nm"). The examiner takes the position that because the elements are the same (note from the dependent claims the metal oxides presented are indium-tin oxide as antimony-tin oxide in both applications, the particles sizes are similar, and the polymer matrices are

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similar), the aforementioned physical limitation would be met. Since both sets of claims recite similar plastic materials and nanoscale metal oxides, it is evident that the properties of these materials, such as transparency to 300-1300 nm laser light as recited in the copending applications, would also be intrinsic to the corresponding ingredients in the present claims. As such, the present claims are rendered obvious over the copending application's claims.

15. This is a provisional obviousness-type double patenting rejection.

16. Claims 41-60 are directed to an invention not patentably distinct from claims 22-25 of commonly assigned 11/368602, similar as noted above.

17. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 11/368602, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

18. A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon

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the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

***Claim Rejections - 35 USC § 103***

19. Claims 41-48 and 53-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2003-246132A.

20. JP2003-246132A teaches a porous thermoplastic printing material (ti.) comprising a plastic matrix (ab., par. 4) and 1 to 40 wt. % (par. 7) of a nanoscale (corresponding to "0.010-200-micrometer thing," par. 7) light-sensitive metal-oxide-coated mica (ab., pars. 4 and 7). The examiner gives official notice that micas are complex metal-oxides crystals comprising several metals, oxygen, and a relatively few hydroxide molecules. Thus, the examiner takes the position that the hydroxide particles are merely doping the complex metal oxide, and thus micas are merely complex doped metal oxides and hence satisfy the limitation of the claims, "discrete laser-absorbing particles consisting of nanoscale laser-sensitive metal oxides and/or nanoscale laser-sensitive doped metal oxides."

21. The reference fails to teach claimed amounts of metal oxides present in the composition.

22. However, one of ordinary skill in the art would recognize that the amount of metal-oxide-coated mica present in the composition would be expected to directly contribute to the amount of absorbed IR radiation for the composition. As such, it is a result effective variable. Optimization of result effective variables through routine

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experimentation is not a patentable distinction. See *In re Beosch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP 2144.05 (II) (B). As such, it would have been obvious at the time of the invention to one of ordinary skill in the art to optimize the amount of metal-oxide-coated mica to control the final optical characteristics of the thermoplastic printing material.

23. Regarding claims 42 and 48, the examiner interprets “metal oxides” as a genus of compounds that comprises “doped metal oxides” as a species. As these two are not mutually exclusive and overlap for doped metal oxides, a doped metal oxide would read on both claims. As already addressed above, the examiner takes the position that mica is a complex doped metal oxide.

24. Regarding claims 43 and 49, the metal-oxide-coated mica particle size is 0.010-200 micrometers (cited above). The claimed range would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held that claiming an overlapping portion of the range taught in the prior is a *prima facie* case of obviousness. See *In re Malagari*, 182 USPQ 549.

25. Regarding claims 44-47 and 53-56, the choice of plastic material is not particularly limited. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any plastic material, as given no unexpected results, any material would behave as functional equivalents.

26. Regarding claim 57 and 59-60, a YAG laser is used to create a printed body (par. 10).

27. Regarding claim 58, kneaders are used to mix the composition (par. 12).



28. Claims 41-43, 48-52, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solutia, Inc. (WO 02/060988) in view of Sigma Aldrich (Figure 1, screenshot of website, 3/28/2008).

29. The rejection is adequately set forth in paragraphs 30-37 of the office action mailed 8/29/2008, and the rejection here hereby incorporated by reference.

30. Claims 44-47 and 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solutia, Inc. (WO 02/060988) as applied to claims 19-21, 24-26, 31, 35, 37, and 39 above, and further in view of Murase *et al.* (US 5,445,871), John Radzwill (US 4,177,099), Smith *et al.* (US 5,629,404), or Kawase *et al.* (US 2004/0209031).

31. The rejection is adequately set forth in paragraphs 38-42 of the office action mailed 8/29/2008, and the rejection here hereby incorporated by reference.

### ***Response to Arguments***

32. Applicant's arguments filed 12/12/2008 have been fully considered but they are not persuasive. Specifically, applicant argues: (i) JP 2003-246132 does not read on "discrete laser-absorbing particles consisting of nanoscale laser-sensitive metal oxides and/or nanoscale laser-sensitive doped metal oxides"; (ii) Solutia, Inc. (WO 02/060988) does not inherently laser-weld or laser-mark; and (iii) Solutia has five times more metal

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oxide than the present invention, and the examiner optimizing the present invention is improper hindsight.

33. Regarding argument (i), the examiner has explicitly addressed this limitation in the action. See paragraph 20 above.

34. Regarding argument (ii), the examiner disagrees. The terms "laser weldable" and "laser markable" are naturally broad terms. A composition that can be laser welded or laser marked by any laser under any conditions would meet this limitation. Virtually any composition is going to be at least laser markable, and virtually any thermoplastic or rubber composition is going to be laser weldable. Thus, given the relative similarity between Solutia and the present invention, the examiner believes that it is clear that at *some* conditions under *some* laser radiation, the composition will laser-weld and will laser-mark. Thus, the composition is innately laser-weldable and laser-markable.

35. Regarding argument (iii), the examiner disagrees. There is not a rejection on Solutia alone. The examiner believes that the rejection provided above (Solutia in view of Sigma Aldrich) is adequate to establish a *prima facie* case of obviousness.

Specifically, the motivation to try using less nanoscale metal oxide is because metal oxide particles are expensive. Thus, one of ordinary skill in the art would naturally have motivation to try using less of an expensive reagent.

### ***Conclusion***

36. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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37. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Taylor II whose telephone number is (571) 270-5457. The examiner can normally be reached on 7:30 am to 5:00 pm (off every other Friday).

39. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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40. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James W Taylor II/  
Examiner, Art Unit 1796

jwt2

/Vasu Jagannathan/  
Supervisory Patent Examiner, Art Unit 1796